

L3 ANSWER 5 OF 15 CAPLUS COPYRIGHT 2003 ACS on STN DUPLICATE 5
TI Method for diagnosing restenosis following coronary vessel intervention
AB A method is described for diagnosing restenosis following coronary vessel
intervention by measuring human lipocalin-type prostaglandin D synthase (L-PGDS) in a body fluid sample (e.g., blood ,
urine). More particularly, this method comprises measuring the
L-PGDS concn. in the sample by an immunoassay and diagnosing restenosis
following coronary vessel intervention using its time course as an index.
SO PCT Int. Appl., 21 pp.
CODEN: PIXXD2
IN Seiki, Kosuke; Oda, Hiroshi; Nakashima, Hiroshi; Sato, Nobuyuki; Urade,
Yoshihiro; Uehara, Yoshio; Inoue, Akio

L3 ANSWER 10 OF 15 SCISEARCH COPYRIGHT 2003 THOMSON ISI on STN DUPLICATE 8
TI Immunofluorometric assay of prostaglandin D synthase in human tissue
extracts and fluids
AB A two-site sandwich-type assay for human prostaglandin D (PGD) synthase
(**beta-trace**) was developed with two monoclonal
antibodies and using time-resolved fluorometry as the detection technique,
The assay is precise (CVs <10%), accurate, and highly specific for PGD
sythase and has a detection limit of 0.05 mu g/L. Using this assay, we
measured PGD synthase concentrations in serum, **urine**, amniotic
fluid, cerebrospinal fluid (CSF), seminal plasma, breast cyst fluid,
breast discharge fluid, breast milli, and breast tumor extracts. The
highest concentrations were found in CSF, We identified proteolytic
degradation of PGD synthase in amniotic fluid. Fetal tissues contained
various amounts of the enzyme, with the highest values being found in
brain and heart, In placental extracts, PGD synthase content was greatest
at 11-28 weeks of gestation-in accordance with the concentrations measured
in amniotic fluids for this gestational period. We conclude that PGD
synthase is ubiquitous and is present in many fluids and tissues of adults
and fetuses, This first quantitative and sensitive assay of PGD synthase
should facilitate expansion of knowledge on this enzyme and possibly will
have applications for diagnosis and monitoring of human diseases.
SO CLINICAL CHEMISTRY, (DEC 1996) Vol. 42, No. 12, pp. 1984-1991.
Publisher: AMER ASSOC CLINICAL CHEMISTRY, 2101 L STREET NW, SUITE 202,
WASHINGTON, DC 20037-1526.
ISSN: 0009-9147.
AU Melegos D N; Diamandis E P (Reprint); Oda H; Urade Y; Hayaishi O

L3 ANSWER 11 OF 15 CAPLUS COPYRIGHT 2003 ACS on STN DUPLICATE 9
TI Quantitative sandwich enzyme-linked immunosorbent assay for human
secretory prostaglandin D synthase (.beta.-trace)
AB Glutathione-independent prostaglandin D synthase is responsible for the
biosynthesis of prostaglandin D2, an endogenous sleep-promoting substance,
in the central nervous system of various mammals including humans. This
enzyme is localized in the choroid plexus, leptomeninges, and
oligodendrocytes of the central nervous system and is secreted into the
cerebrospinal fluid as .beta.-trace protein, a major constituent of human
cerebrospinal fluid. Two monoclonal antibodies against human .beta.-trace
(1B7 and 10A3) were prepd. by immunization of BALB/c mice with the
recombinant protein expressed in Escherichia coli. Western blot anal.
with human cerebrospinal fluid revealed that both 1B7 and 10A3 antibodies
were immunoreactive toward a single protein at the same position as that
of the purified .beta.-trace (Mr=27,000). A quant. sandwich ELISA was
constructed with these two monoclonal antibodies. The assay system showed
a linearity in the range from 0.06 to 4.00 ng .beta.-trace/well (100
.mu.l). The .beta.-trace concn. was detd. by the
immunoassay to be 11.30.+-.2.54 .mu.g/mL in human cerebrospinal fluid,
1.25.+-.0.37 .mu.g/mL in the **urine**, and 0.27.+-.0.01 .mu.g/mL in
the serum.
SO Proceedings of the Japan Academy, Series B: Physical and Biological
Sciences (1996), 72B(5), 108-111
CODEN: PJABDW; ISSN: 0386-2208
AU Oda, Hiroshi; Eguchi, Naomi; Urade, Yoshihiro; Hayaishi, Osamu

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ORIGINAL ARTICLES

Molecular characterization of beta-trace protein in human serum and urine: a potential diagnostic marker for renal diseases

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Gesellschaft für Biotechnologische Forschung, Department of Molecular Biology, Braunschweig, Germany.

We have isolated beta-trace protein from cerebrospinal fluid, serum, plasma, and urine samples of normal volunteers and sera and hemofiltrate of patients with chronic renal failure. Blood-derived and urinary beta-trace have significantly higher molecular weights than their cerebrospinal fluid counterpart, the amino acid sequences being identical. Oligosaccharide structural analysis revealed these molecular weight differences to be due to different N-glycosylation. beta-Trace from hemofiltrate and urine has larger sugar chains and concurrently significantly higher sialylation than cerebrospinal fluid-beta-trace which bears truncated "brain-type" oligosaccharide chains (published previously). beta-Trace concentrations were about 40 ng/ml for normal sera and plasma. 2000-6000 ng/ml were measured in sera of dialysis patients whereas in normal human cerebrospinal fluid, beta-trace concentration was about 8000 ng/ml. A reduced amount of 900 ng/ml was found in a single case of hydrocephalus cerebri. The sialylated glycoforms of beta-trace detected in the blood are presumably derived from resorbed cerebrospinal fluid protein whereas beta-TP-molecules bearing asialo-oligosaccharides are absent due to their hepatic clearance. The residual, sialylated beta-TP-species are probably eliminated from the blood via the kidney. This physiological clearance mechanism for the sialylated glycoforms is disturbed in hemodialysis patients resulting in about 100-fold elevated serum concentrations. These results let us suggest beta-trace may become a useful novel diagnostic protein in renal diseases.

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G. Filler, F. Priem, N. Lepage, P. Sinha, I. Vollmer, H. Clark, E. Keely, M. Matzinger, A. Akbari, H. Althaus, and K. Jung
{beta}-Trace Protein, Cystatin C, {beta}2-Microglobulin, and Creatinine Compared for Detecting Impaired Glomerular Filtration Rates in Children

Clin. Chem., May 1, 2002; 48(5): 729 - 736.

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N. Hirawa, Y. Uehara, M. Yamakado, Y. Toya, T. Gomi, T. Ikeda, Y. Eguchi, M. Takagi, H. Oda, K. Seiki, Y. Urade, and S. Umemura

Lipocalin-Type Prostaglandin D Synthase in Essential Hypertension

Hypertension, February 1, 2002; 39(2): 449 - 454.

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F. Priem, H. Althaus, K. Jung, and P. Sinha

{beta}-Trace Protein Is Not Better than Cystatin C as an Indicator of Reduced Glomerular Filtration Rate

Clin. Chem., December 1, 2001; 47(12): 2181 - 2181.

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B. Bulmer, G. Ward, E. Diamandis, D. Nicol, and J. Clements

Prostaglandin D Synthase Does Not Produce Prostate-specific Antigen Cross-Reactivity in Renal Cell Carcinoma

Clin. Chem., March 1, 2001; 47(3): 607 - 608.

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L. F García-Fernández, M. A. Iñiguez, N. Eguchi, M. Fresno, Y. Urade, and A. Muñoz

Dexamethasone Induces Lipocalin-Type Prostaglandin D Synthase Gene Expression in Mouse Neuronal Cells

J. Neurochem., August 1, 2000; 75(2): 460 - 470.

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E. Grabenhorst and H. S. Conradt

The Cytoplasmic, Transmembrane, and Stem Regions of Glycosyltransferases Specify Their in Vivo Functional Sublocalization and Stability in the Golgi

J. Biol. Chem., December 17, 1999; 274(51): 36107 - 36116.

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F. Priem, H. Althaus, M. Birnbaum, P. Sinha, H. S. Conradt, and K. Jung
B-Trace Protein in Serum: A New Marker of Glomerular Filtration Rate in the Creatinine-Blind Range

Clin. Chem., April 1, 1999; 45(4): 567 - 568.

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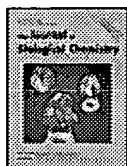
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S. Fouchécourt, F. Dacheux, and J.-L. Dacheux
Glutathione-Independent Prostaglandin D2 Synthase in Ram and Stallion Epididymal Fluids: Origin and Regulation

Biol. Reprod., March 1, 1999; 60(3): 558 - 566.

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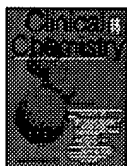
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E. Grabenhorst, M. Nimtz, J. Costa, and H. S. Conradt
In Vivo Specificity of Human alpha 1,3/4-Fucosyltransferases III-VII in the Biosynthesis of LewisX and Sialyl LewisX Motifs on Complex-type N-Glycans. COEXPRESSION STUDIES FROM BHK-21 CELLS TOGETHER WITH HUMAN beta -TRACE PROTEIN

J. Biol. Chem., November 20, 1998; 273(47): 30985 - 30994.

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H. Oda, Y. Shiina, K. Seiki, N. Sato, N. Eguchi, and Y. Urade
Development and Evaluation of a Practical ELISA for Human Urinary Lipocalin-Type Prostaglandin D Synthase

Clin. Chem., September 1, 2002; 48(9): 1445 - 1453.

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